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## A REVIEW OF THE LABRID FISH GENUS *WETMORELLA* WITH DESCRIPTIONS OF NEW FORMS FROM THE TROPICAL INDO-PACIFIC

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Fowler (Fishes of Oceania, suppl. 1, p. 358, 1931) and Weber and de Beaufort (Fishes of the Indo-Australian Archipelago, vol. 8, p. 82, 1940) list *Wetmorella philippina* Fowler and Bean (U. S. Nat. Mus. Bull. 100, vol. 7, p. 211, pl. 17, 1928, type locality Philippine Islands) as a synonym of *Cheilinus fasciatus* (Bloch). We have studied the types of *Wetmorella philippina* (fig. 1) and conclude without any doubt that these specimens are generically distinct from *Cheilinus* and are remarkably distinct from *C. fasciatus* or any other species of labrid currently referred to that genus. The generic characters that distinguish *Wetmorella* from other genera in the Labridae are the large scales on the head, which form a pattern not occurring in any other genus of labrid fishes, and the acutely triangular head. Fowler and Bean (op. cit., pp. 211-212) had six specimens from the Philippines, but only four of them, in our opinion, are *philippina* (holotype: USNM 89968 from Little Santa Cruz, Zamboanga; paratypes: USNM 93503 from Port Langcan, Palawan, USNM 93505 from Atulayan Island, Philippines, and USNM 93528 from Cape Kait, Libani Bay, Celebes). The other two specimens represent undescribed species, and these, along with additional specimens from the Marshall Islands and the Red Sea, are described as new.

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### Genus *Wetmorella* Fowler and Bean

*Wetmorella* Fowler and Bean, U. S. Nat. Mus. Bull. 100, vol. 7, p. 211, 1928.  
(Genotype, *Wetmorella philippina* Fowler and Bean.)

The genus *Wetmorella* is characterized by dorsal rays IX or X, 9 or 10; anal III,8; pectoral ii,9 or 10; branched caudal rays 6+5; lateral line interrupted with 13 to 15+6 or 7 pores to base of caudal fin. Jaws equal or nearly so; premaxillary protractile; teeth short, conical, in a single row in both jaws, those near front of both jaws becoming gradually enlarged, the two pairs nearest tip of jaws largest; gill membranes broadly joined across isthmus, forming a free fold; head with a distinctive scale pattern composed of large, characteristically shaped scales, arranged in a pattern similar to that shown in figure 53. The chief variation in scales on the head is that there may be 2 median scales on the snout instead of 1; cheek with 1 or 2 rows below which on subopercle may occur another row and a single scale below the latter; 2 or 3 rows of scales behind eye, including the gill cover; a row of large scales occurs above dorsal lateral line, then a second row along spiny dorsal fin, mostly covering the spines except tips, becoming much smaller along soft dorsal rays, almost disappearing on base of last ray; anal fin with a similar sheath of scales; basal half of caudal fin enclosed in large scales; axillary pelvic scale present, short; interorbital space flattish and a little convex; dorsal profile of head nearly straight, forming an angle of 40° to 55° with ventral contour of head; maxillary covered by preorbital when mouth is closed. A blackish ocellate spot in pelvics and at rear of soft dorsal and anal fins; white bar behind eye and on caudal peduncle.

#### Key to the species of *Wetmorella*

- 1a. Greatest width of white bar between rear of bases of soft dorsal and of soft anal fins across caudal peduncle is contained about 2.0 to 4.7 times (3.8 to 4.7 in Red Sea specimens) in least depth of caudal peduncle; white bar on caudal peduncle completely encircles it; young only, with white bar from front of spiny dorsal through pectoral base, thence to pelvic base; white bar behind eye meets its fellow near occiput.
- 2a. Caudal fin plain dusky, except in smallest specimens there occur 2 narrow black cross bars, remainder of fin pale or white; some scales on middle of sides have black dots; greatest depth about 2.4 to 2.5 in standard length.-----*Wetmorella ocellata*, new species
- 2b. Caudal fin with a few black spots on middle rays, at about three-fourths their length distally; greatest depth 2.4 to 3.2.
- 3a. Greatest width of peduncular white bar 2.3 to 3.4 in least depth of caudal peduncle; no white bar in front of ocellate spot in soft dorsal and in front of soft anal fins (fig. 52).

#### *Wetmorella philippina philippina* Fowler

- 3b. Greatest width of peduncular white bar 3.8 to 4.7 in least depth of caudal peduncle; white bar present in front of ocellate spot in soft dorsal and in soft anal fins (pl. 12, fig. A).

#### *Wetmorella philippina bifasciata*, new subspecies

1b. Greatest width of white bar on caudal peduncle between rear of bases of soft dorsal and of soft anal fins contained about 6 to 10 times in least depth of caudal peduncle; greatest depth about 2.8 to 2.9.

4a. A white bar from behind ocellate spot in soft dorsal passes in front of ocellate spot in soft anal fin; a white bar from bases of third and fourth dorsal spines passes behind pectoral base, thence to just behind pelvic base; posterior third of caudal fin with a black band, but rear margin of caudal fin is edged with white; the white bar on caudal peduncle occurs as a saddle ventrally and does not extend on dorsal part of caudal peduncle.

*Wetmorella albofasciata*, new species

4b. No white bar passing between ocellate spot in soft dorsal and that in soft anal; a narrow, white bar extends from in front of ocellate spot in soft dorsal to in front of that in soft anal fin; caudal fin plain dusky, edged with white distally; a white bar between orbits in the interorbital space-----*Wetmorella triocellata*, new species

*Wetmorella philippina bifasciata*, new subspecies

FIGURE 53; PLATE 12, FIGURES A, B

*Holotype*.—BM 1951.9.18.1, Red Sea, Suakin, Anglo-Egyptian Sudan, 'Manihine' Collection, January 13, 1951, taken by use of derris root (6 percent rotenone) from pieces of coral growing on sea wall surrounding Suakin, at depth of 3 feet, standard length 50 mm.

*Paratype*.—BM 1951.9.18.2, taken with holotype and bearing same locality data, standard length 41.5 mm.

*Description*.—Certain counts and measurements are recorded for the holotype and paratype in tables 1 and 2.

Body compressed, greatest depth opposite middle of spiny dorsal base; snout normal; dorsal profile of head straight or nearly so, forming an angle of 52 to 55° with ventral contour of head and body;

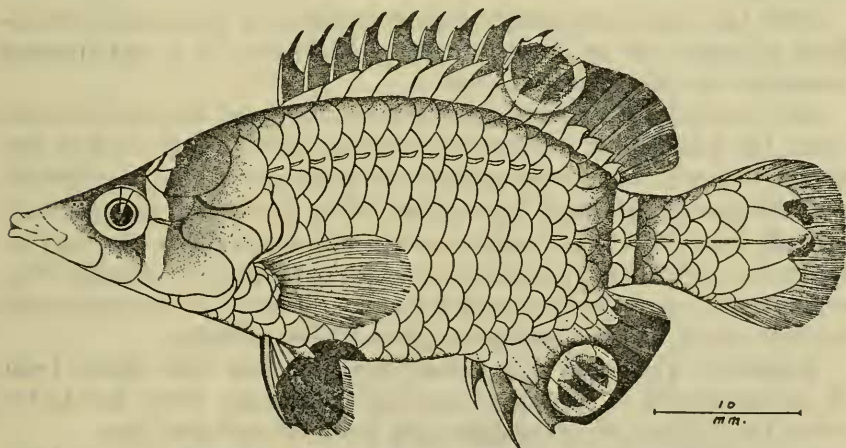
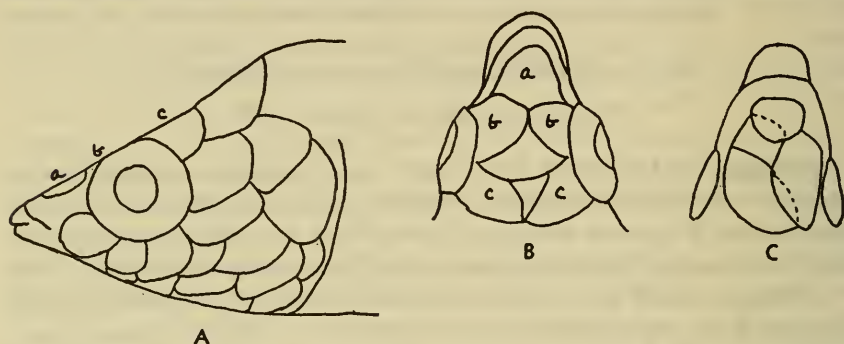


FIGURE 52. Holotype of *Wetmorella philippina philippina* Fowler and Bean (USNM 89968) from the Philippines.



TABLE 1.—Counts recorded for species of *Wetmorella*.

Species	Dorsal rays				Anal rays		Pectoral rays			Branched caudal rays		Lateral line pores				
										Dorsal lobe	Ventral lobe	Upper			Lower	
	IX	X	9	10	III	8	11	9	10			13	14	15	6	7
<i>W. philippina philippina</i> .....	3	1	1	3	4	4	7	1	6	4	4	2	1	1	2	2
<i>philippina bifasciata</i> .....	2	-----	-----	2	2	2	2	-----	2	2	2	2	-----	-----	2	-----
<i>ocellata</i> .....	12	-----	-----	12	12	12	12	-----	12	3	3	-----	5	2	3	4
<i>albofasciata</i> .....	1	-----	-----	1	1	1	2	-----	2	1	1	-----	-----	1	-----	1
<i>triocellata</i> .....	1	-----	-----	1	1	1	2	-----	2	1	1	-----	-----	1	1	-----

FIGURE 53. Sketch of the arrangement of the scales on the head of holotype of *Wetmorella philippina bifasciata*, new species. A, B, holotype; C, paratype.

interorbital space slightly convex, nostrils small, the anterior one tubular; jaws equal or nearly so; scales on head as illustrated in figure 53.

Since the other morphological characteristics of *Wetmorella philippina bifasciata* are so similar to *W. p. philippina* it is not deemed necessary to redescribe them here.

*Color in alcohol*.—Background coloration brownish with a narrowish white bar just behind ocellate spot passing through rear base of soft dorsal, thence across caudal peduncle through rear of anal base behind ocellate spot in soft anal fin; another white bar, much less distinct, extends from in front of ocellate spot in soft dorsal fin across body to in front of ocellate spot in anal fin; a narrow, white bar extends from occiput past rear of eye to lower posterior corner of gill cover; caudal fin with about 7 or 8 black spots; pelvics black distally.

*Remarks*.—This new subspecies from the Red Sea differs from *W. p. philippina* in having a narrower peduncular white bar and a white bar in front of the ocellate spot in dorsal and anal fins.

Named *bifasciata* in reference to the two white bands, one in front and one behind the ocellate spots.

TABLE 2.—Measurements made on species of Wetmorella, expressed in thousands of the standard length

Characters	<i>philippina philippina</i> Fowler			<i>ocellata</i> , new species			<i>albofasciata</i> , new species	<i>triocellata</i> , new species	<i>philippina bifasciata</i> , new subspecies, Red Sea	
	Holotype 89468	Paratypes		Holotype 112368	Paratypes		Holotype 93504	Holotype 93529	Holotype 1951.9.18.1	Paratype 1951.9.18.2
		93503	93505		112371	112372				
Standard length in mm.....	44	30.7	30	38.5	50	25	36.4	39.2	50	41.5
Length of head.....	407	394	371	402	400	415	406	408	380	397
Greatest depth.....	414	371	406	374	400	403	335	344	380	360
Least depth of body.....	148	153	171	156	136	142	140	148	140	136
Snout.....	109	111	119	112	122	115	115	110	120	120
Eye.....	105	124	110	125	100	138	115	110	110	108
Interorbital space.....	102	114	97	101	106	115	104	97	100	102
Greatest width of peduncular white bar.....	43	59	58	68	60	71	14	20	32	38
Postorbital length of head.....	189	192	164	187	171	186	190	201	170	180
Tip of snout to anus.....	682	619	645	688	688	632	646	638	670	710
Tip of snout to dorsal origin.....	448	440	413	436	424	434	456	446	450	433
Longest fin ray:										
Pectoral.....	200	195	203	205	206	205	192	181	200	180
Pelvic.....	177	186	219	208	182	205	170	191	190	192
Dorsal spine.....	157	199	213	169	184	178	206	191	240	205
Dorsal soft ray.....	132	161	153	158	158	145	145	140	180	169
Anal spine.....	134	218	184	179	176	182	225	191	220	205
Anal soft ray.....	118	114	148	138	154	146	135	140	190	180
Caudal.....	227	238	271	260	256	257	275	263	230	241

*Wetmorella ocellata*, new species

PLATE 12, FIGURES D, E

*Holotype*.—USNM 112368, Rongelap Atoll, Kieshiechi Island, north end, lagoon coral head, depth 20 feet, July 24, S-46-285,<sup>2</sup> Brock and Herald, standard length 38.6 mm.

*Paratypes*.—USNM 112372, Bikini Atoll, coral heads in eastern end of lagoon, depth 20 to 25 feet, March 26, S-46-42,<sup>2</sup> Brock and Schultz, 2 specimens, 25 mm. and 49 mm.; USNM 112371, Bikini Atoll, off Amen Island in lagoon, depth 30 feet, August 4, S-46-307,<sup>2</sup> Herald and Brock, 1 specimen, 50 mm.; USNM 112370, Bikini Lagoon, 100 yards off Airy Island, depth 20 to 40 feet, August 7, S-46-308,<sup>2</sup> Brock and Herald, 6 specimens, 23 mm. to 57 mm. Bikini Atoll, reef between Amen and Bikini Islands in lagoon, depth 30 feet, July 31, 1947, Donaldson and Welander, 1 specimen, 48 mm.; USNM 112369, taken with holotype and bearing same data, 1 specimen, 41 mm.; USNM 112373, Bikini Atoll, Amen Island, August 21, 1947, Univ. Washington, 1 specimen, 43 mm.

*Description*.—Dorsal rays IX,10; anal III,8; pectoral ii,10; pelvics I,5; branched caudal fin rays 6+5; pores in lateral lines 14 or 15+6 or 7; scales above lateral line 2, below lateral line to anal origin 6; vertical scale rows 20 or 21; gillrakers on first arch about 6+9. (Certain measurements made on the holotype and two paratypes, expressed in thousandths of the standard length, are recorded in table 2.)

Body compressed, the greatest depth opposite middle of spiny dorsal base; snout normal; dorsal profile of head straight or nearly so, forming an angle of 40° to 46° with ventral contour of head and body; interorbital space slightly convex; nostrils small, the anterior one tubular; a vertical line through rear nasal opening passes through front edge of eye; jaws approximately equal; maxillary reaches to a vertical line through front nostril; maxillary covered by preorbital when mouth is closed; dentary normal; premaxillary protractile; teeth short, conical in a single row in both jaws, those near front of both jaws becoming gradually enlarged, the 2 pairs nearest tip of jaws largest, and, when mouth is closed, those of lower jaw fitting

EXPLANATION OF PLATE 12.—*A*, holotype of *Wetmorella philippina bifasciata*, new subspecies (BM 1951.9.18.1) from Red Sea; *B*, paratype of same subspecies from same locality; *C*, holotype of *W. albofasciata*, new species (USNM 93504) from the Philippines; *D*, holotype of *W. ocellata*, new species (USNM 112368) from Rongelap Atoll, Marshall Islands; *E*, paratype of *W. ocellata*, new species (USNM 112372) from Bikini Atoll, 25 mm. standard length.

<sup>2</sup> Collecting station in Operation Crossroads, 1946 (see U. S. Nat. Mus. Bull. 202, 1953).



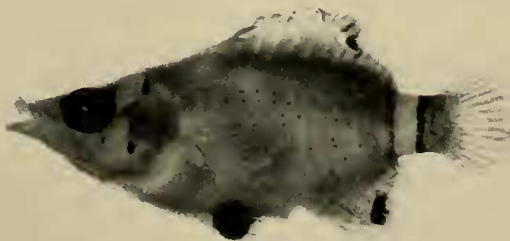
A



B



C



D



E

FOR EXPLANATION SEE FACING PAGE.



